MAN 1 1 200 S MAN 1 1 200 S Attorney's Docket No. 74451.P103

GIAN 2721 2621 <u>PATENT</u>

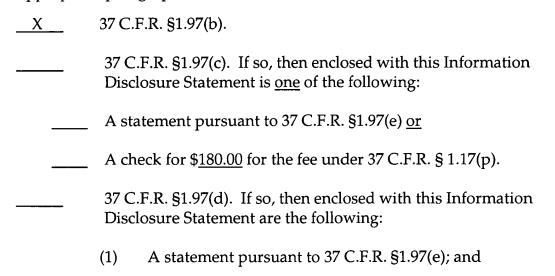
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE UNITED STATES PAT	ENT AND TRADEMARK OFFICE
In Re Patent Application of:	Par Market
Kathrin Berkner) Examiner: Not yet assigned of Contact of C
Application No.: 09/467,544 •) Art Unit: 2721
Filed: December 10, 1999.	
For: MULTISCALE SHARPENING AND SMOOTHING WITH WAVELET) <u>S</u>)
Assistant Commissioner for Patents Washington, D.C. 20231	
INFORMATION DISC Sir:	CLOSURE STATEMENT
Enclosed is a copy of Information	n Disclosure Citation Form PTO-1449
together with copies of the documents	cited on that form. It is respectfully
requested that the cited documents be o	considered and that the enclosed copy of
Information Disclosure Citation Form I	PTO-1449 be initialed by the Examiner to
indicate such consideration and a copy	thereof returned to applicant(s).
postage in an envelope addressed to the Assistant Commissioner	·
Mara E. Brown	of Deposit)
(Typed or printed name of person mailing corresponde	nce)

(Signature of person mailing correspondence)

Pursuant to 37 C.F.R. § 1.97, the submission of this Information Disclosure Statement is not to be construed as a representation that a search has been made and is not to be construed as an admission that the information cited in this statement is material to patentability.

Pursuant to 37 C.F.R. § 1.97, this Information Disclosure Statement is being submitted under one of the following (as indicated by an "X" to the left of the appropriate paragraph):



(2) A check for \$180.00 for the fee under 37 C.F.R. \$1.17(p) for submission of the Information Disclosure Statement.



Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LERenge Top. If there are any additional charges, please charge Deposit Account No. 02-

Michael J. Mallie Reg. No. 36,591

12400 Wilshire Blvd. Seventh Floor Los Angeles, CA 90025-1026 (408) 720-8300

				Г	-	
Please type a	ı plus sign (+)	inside this	\rightarrow	-	Н	

PTO/SB/08A (10-96) Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

+

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO								Col	nplete if Known				
		BSTZ 6/30/9		/		~~\{\curs_{\circurs_{\curs_{\curs_{\curs_{\circurs_{\curs_{\curs_{\curs_{\circurs_{\curs_{\circurs_{\curs_{\circurs_{\curs_{\curs_{\circurs_{\circurs_{\circurs_{\curs_{\circurn}\circurn_{\cirny_{\circurs}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}	Applic	cation Number	09/467,544				
11	NFC	RMATION I	DISCL	.0\$1	URRAY 1 4 200	ון א	Filing	Date	12/10/1999	12/10/1999			
	STA	TEMENT BY	/ APP	ΠĠ	NT	. Š	First N	lamed Inventor	Berkner		· K		
(use as many sheets as necessary) RADEMARK				*	Group	Art Unit	2721	OCA.	1/4/ C	0			
						Ī	Exam	niner Name	Not yet assign	2721 Cy 141 Cy 1			
Sheet		1	of	Π	9		Attorr	ney Docket Number	74451.P103		Co 20	O'	
					U	.S. P	ATENT	DOCUMENTS			To,		
Examiner Initials *		U.S.Patent D Numb		nt		me of		or Applicant	Date of Publica Cited Docum MM-DD-YY	ent	Filing Tope i	f Appropriate	
		5,717,	789		Anderson et	al.			2/10/199	8	i -		
		5,883,973 Pascovici et al.							3/16/199	9			
		5,805,721 Vuylsteke et al.							9/8/199	3			
		5,867,606 Tretter							2/2/199	9			
					FOF	REIGI	N PATE	ENT DOCUMENTS					
Examiner Initials *				tent	Document		Name of Patentee or Applicant Of Cited Document Of Cited Document				Publication of Document	Translation? Yes/No	
IIIIIais		Office or Cou	ntry		Number	<u>[</u>	Date	of Cited Docume	nt		DD-YYYY	163/10	
						<u> </u>							
	-					 				-	· <u></u>		
			\longrightarrow			<u> </u>							
						<u> </u>							
										<u> </u>			
<u> </u>		Include par	no of th	20 21	thor (in CAPIT			OCUMENTS), title of the article (when	appropriate) title	f the iter	n (book	1	
Examiner Initials *						catalo	og, etc.),	date, page(s), volume-isse published (if known).				Translation? Yes/No	
		ABRAMOV	/ICH, F	F., S	Silverman, B.V	V., "W	/avelet	Decomposition Approa	ches to Statistic	al Invers	se		

Examiner Signature	Date Consid	dered

in the JPEG Domain," Proceedings of the 1997 International Conference on Image Processing

Problems," Biometrika, vol. 85, pp. 115-129, 1998.

(ICIP '97), pp. 326-329, 1997.

BHAKARAN, V., et al., "Text and Image Sharpening of Scanned Images

Please type a plus sign (+) inside this box	Н	Ĺ	ı
· · · · · · · · · · · · · · · · · · ·			ı

Inder the Pa	aperv	vork Reduction	Act of 1	995, no persons are	equire	d to resp	ond to a collection of infor	mation unless it	contain	s a valid C	OMB control r	number.
Substitu	ute f	or form 1449A	/PTO	OTPE	·6)		C	omplete if Kı	nown			
(Modifie	ed by	BSTZ 6/30/9	9)	/	m 2	Applic	cation Number	09/467,5	544			
11	NFO	RMATION D	DISCL	OSURE N 1 LT	, 1 <u>4</u>	Filing	Date	12/10/19	12/10/1999			
STATEMENT BY APPLICANT (use as many sheets as necessary) TRADEWICE				\$ 7 5	First N	lamed Inventor	Berkner	Berkner				
(us	e as	many sheet	ts as r	necessary) TRADE	MAI	Group	o Art Unit	2721	•	冷	1/2	
					Ī	Exan	niner Name	Not yet a	Not yet assigned The state of t			
Sheet		2	of	9		Attori	ney Docket Number	74451.P	74451.P103			, 13
					J.S. P	ATENT	DOCUMENTS				87,	6,
Examiner Initials *		U.S.Patent De		Na Na		Patentee Dited Doo	or Applicant cument		Publica Docum DD-YY	ent	Filing Date	f Appropriate
									· -	<u></u>		
										_		

											<u> </u>	
					REIGI	N PAT	ENT DOCUMENTS					
Examiner Initials *				tent Document			Name of Patentee o of Cited Docu					Translation? Yes/No
		Office or Cour	ntry	Number	T	Date	Of Offed Bocul			MM-I	DD-YYYY	
					1							<u> </u>
												<u> </u>
					 							
	!		<u>l</u>		<u> </u>					<u> </u>	_	L
		landing a man	6 41	a cuthou (in CADIT			OCUMENTS		\ title (f the iter	m /haals	1
Examiner Initials *					catalo	g, etc.),), title of the article (who date, page(s), volume- e published (if known).					Translation? Yes/No
		DONOHO,	D.L.,	'Nonlinear solutio	n of li	inear in	verse problems by w	avelet-vague	elett			
	·	decomposit	ion," .	I. of 'Appl. and Co	mp. H	Harm. A	nal, vol. 2, pp. 101-1	15, 1995.				
	۲	MALLAT, S	., A W	avelet Tour of Si	gnal F	rocess	sing. Academic Pres	s, 1998.				
	4	NEELAMAN	ΝΙ, R.,	Choi, H., Baranii	ık, R.	, "Wave	elet-based Deconvolu	ution for III-co	nditio	ned		
		Systems," i	n Prod	ceedings of ICAS	SP, v	ol. 6, p _l	o. 3241-3244, 1998.					<u> </u>
Examine Signatur		-		``.				Date Considered				

Please type a plus sign (+) inside this box	_	L	
---	---	---	--

Inder the Pa	aperw	ork Reduction	Act of 19	95, no persons are re	quir	ed to resp	ond to a collection of infor			s a valid O	MB control r	umber.	
Substitute for form 1449A/PTO						if Known							
(Modifid	ed by	BSTZ 6/30/9	9)	<i></i>	$\omega /$	<u> </u>	cation Number		67,544				
ן וו	NFO	RMATION E	DISCLO	SURFAY 1 6 200	753.	Filing	Date	12/1	0/1999				
	STATEMENT BY APPLICANT 4 2001 2 (use as many sheets as necessary)				, ω ,ω,	First I	Named Inventor	Berl	kner				
us (us	se as	many shee	ts as ne	ecessary)		Grou	p Art Unit	272	1				
				DEMARK		Exan	niner Name	Not	Not yet assigned				
Sheet		3	of	9		Attor	ney Docket Number	744	51.P103				
				Ū	.S. I	PATENT	F DOCUMENTS						
Examiner Initials *	Initials * Name of				f Patentee Cited Doo	or Applicant cument		te of Publica Cited Docum MM-DD-YY	tion of ent YY	Filing Date	Appropriate		
										· Co	a My	V	
											10/00 1	8 (V)	
											Con	10,	
	Ш			_							~~	200	
											<u></u>	90	
	\sqcup								-		1		
	Ш											_	
											ļ		
<u> </u>													
					EIG	N PAT	ENT DOCUMENTS						
Examiner Initials *	-	Office or Cour		ent Document Number		Date	Name of Patentee of Cited Docu					Translation? Yes/No	
	\Box												
	П							-					
					ОТ	HER DO	OCUMENTS						
Examiner Initials *				erial, symposium,	AL L cata	ETTERS log, etc.)	r), title of the article (wh , date, page(s), volume re published (if known).	-issue nur				Translation? Yes/No	
	+	POLESEL,	A., et a	al., "Adaptive uns	har	p maski	ng for contrast enhar	ncement,	u				
		in Proceedi	ngs of l	ICIP'97, pp. 267-	270	, 1997.		_					
	1	ZONG, X.,	Laine, <i>i</i>	A.F., Geiser, E.A	., W	/ilson, D	.C., "De-Noising and	l contrast	enhancer	nent via			
	1	·		<u> </u>			," Proceedings of the						
	+	pp. 566-57	4, Orlar	ndo, FL, 1996.				,					
<u> </u>	<u> </u>											<u> </u>	
Examine	er							Date					

Signature

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Considered

Please type	a plus	sign	(+)	inside	this	box_	_	
		-	٠,					_

PTO/SB/08A (10-96)
Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
collection of information unless it contains a valid OMB control purely

				equired to resp	oong to a collection of infor			control number.		
		or form 1449A/PTO y BSTZ 6/30/99)	(PE)	C Annu	ication Number	omplete if Know 09/467,544				
1		RMATION DISC	LOSUBE 4	ا	g Date	12/10/1999				
I .	_			· (1)	Named Inventor	Berkner				
(us	e a	s many sheets as	necessary)	Grou	p Art Unit	2721				
,		•	TRADE	MAN GIOC	miner Name		ianad			
Sheet							Not yet assigned			
Sileer		4 of			rney Docket Number	74451.P103	3 			
Examiner Initials *		U.S.Patent Docume Number	ent T	me of Patente of Cited Do		Date of Pub Cited Doc MM-DD-	cument	ng Date if Appropriate		
Examiner Initials *		Foreign P	FOR atent Document Number	REIGN PAT	ENT DOCUMENTS Name of Patentee or of Cited Document		Date of Publi Cited Doci MM-DD-Y	1 162/110		
				OTHER D	OCUMENTS					
Examiner Initials *				catalog, etc.)), title of the article (whe , date, page(s), volume- re published (if known).					
	+	ANDREWS, H.C., H	unt, B.R., Digital Image	Restoration.	Prentice-Hall, Inc. Englewo	od Cliffs, New Jerse	у, 1977.			
	1			· · ·	stimates for soft-thres L TR98-01, Rice Unive		via translation			
	<u> </u>			<u>`</u>	variant denoising," in	<u></u>	tatiatios			
	}				Pringer-Verlag, 1995.					
<u> </u>	<u> </u>									
Examine						Date Considered	· · · · · · · · · · · · · · · · · · ·			

Please type a plus sign (+) inside this box		
r todoo typo a pido digit (1) intoldo ano don		ı

Substitu	ute for form 1449A	VPTO	OF	Co	mplete if Known			
(Modifie	ed by BSTZ 6/30/9	9)	611 - 873	Application Number	09/467,544			
	NFORMATION I		SURE MY W	Filing Date	12/10/1999			
S	STATEMENT BY	/ АРРЦІ	CANTA ' E	First Named Inventor	Berkner			
(us	e as many shee	ts as ne	SURE MON SULLA CONSTRUCT & TRADEMENT	Group Art Unit	2721			
			TRAUL	Examiner Name	Not yet assigned			
Sheet	5	of	9	Attorney Docket Number	74451.P103			
			U.S.	PATENT DOCUMENTS				
Examiner Initials *	Initials * Name		f Patentee or Applicant Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Filing Date if Appropriate			
						1 10		

		FC	REIGN PATE	ENT DOCUMENTS			
Examiner	Foreign Pa	tent Document		Name of Patentee or Applicant	Date of Publication of	Translation?	
Initials *			Date	of Cited Document	Cited Document MM-DD-YYYY	Yes/No	

		OTHER DOCUMENTS	
Examiner Initials *		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published (if known).	Translation? Yes/No
	1	DONOHO, D.L., "De-noising by soft-thresholding," IEEE Transactions on Information Theory,	
		vol. 41, no.3, pp. 613-627, 1995.	
	/	JAIN, A.K., Fundamentals of digital image processing. Prentice Hall, Englewood Cliffs, NJ, 1989.	
	_	KINGSBURY, N., "The dual-tree complex wavelet transform: a new efficient tool for image	
		restoration and enhancement," in Proc. European Signal Processing Conf., pp. 319-322, 1998.	

Examiner	Date	
Signature	Considered	
	1	



Please type a plus sign (+) inside this box	Ц	
, , , , , , , , , , , , , , , , , , ,		1

				95, no persons are	requir	ed to resp	ond to a collection of info				OMB control r	number.
		or form 1449A y BSTZ 6/30/9		OIPE	3	A==!		Complete i	f Known 67,544		_	
		RMATION D		SCIDE 4	m (<u> </u>	cation Number Date		0/1999			
1 -				· ole sum say 7 " "	יטע	<u> </u>		Berk				
(us	se as	s many sheet	ts as ne	ecessary)	94	· · · · · · · · · · · · · · · · · · ·	Named Inventor o Art Unit	2721				
,				& TRADE	MARK	<u></u>	niner Name					
	<u>. </u>								et assig	nea		
Sheet		6	of	9		<u> </u>	ney Docket Number	7445	1.P103		· · · · · · · · · · · · · · · · · · ·	
Examiner	 	U.S.Patent D	ocument				DOCUMENTS	e of Public	ation of	Gling Des	if Appropriate	
Initials *		Numbe		Na		f Patentee Cited Doo	or Applicant cument		ited Docu	ment	Fling Day Center	- Appropriate
						25					1 2 4	2
							• **				T.	6700
											1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
											1	OS .
											<u> </u>	
				FOI	RFIC	N PATI	ENT DOCUMENTS					
Examiner		For	eign Pate	ent Document		AIT 1 A 1 1	Name of Patentee of	or Applicant		Date of	Publication of	Translation?
Initials *		Office or Coun	ntry	Number		Date	of Cited Docu				Document DD-YYYY	Yes/No
					$oxed{oxed}$							
					<u> </u>							
												ļ
					ОТ	HER DO	CUMENTS					
Examiner Initials *					cata	log, etc.),), title of the article (wh date, page(s), volume e published (if known).	-issue num				Translation? Yes/No
	,	LANG, M.,	Guo, H	., Odegard, J.E.	, Bu	rrus, C.S	S., Wells Jr, R.O., "N	oise reduc	tion usir	ng an un	•	
		decimated o	discrete	wavelet transfo	rm,"	IEEES	Signal Processing Le	tters, vol.	3, pp. 10)-12, 199	96.	
		PRATT, W.	, Digita	I Image Process	ing,	John W	iley & Sons, NY, 197	78.		_		
	×.	ABRAMOVI	ICH, F.	, Sapatinas, T.,	Silve	erman, E	.W., "Wavelet Thres	holding vi	a a Baye	esian		
		Approach,"	J. Roya	al Statist. Soc. S	er. E	3, vol 60	, pp. 725-749, 1998.		-			
Examine	er							Date				

Considered Signature

Please	type a	a plus	sign	(+)	inside	this	box.	\rightarrow	\blacksquare	П	l
			_								1

Jnder the Pa	aperv	vork Reduction A	Act of 19	995, no persons are r	equired to res	pond to a collection of informa	tion unless it contain	s a valid OMB contro	number.	
		or form 1449A		OIPE	Ý.	Сог	mplete if Known			
(Modific	ed by	/ BSTZ 6/30/99	9)		Appl	ication Number	09/467,544			
"	NFC	RMATION D	ISCL	OSURE 11 1 1	ilin 😅	g Date	12/10/1999			
	STA	TEMENT BY	APPL			Named Inventor	Berkner			
us (us	se as	s many sheet	s as n	ecessary & TRAD	EMA? Groi	up Art Unit	2721			
				THAN	Exa	miner Name	Not yet assign	ned		
Sheet		7	of	9	Atto	rney Docket Number	74451.P103			
\vdash			===	Ü	.S. PATEN	IT DOCUMENTS		····		
Examiner Initials *		U.S.Patent Do		t I		e or Applicant	Date of Publication of Cited Document MM-DD-YYYY			
						81. 8		Cy The	<u>.C</u>	
					-			3	1_	
	_							920	3 8	
							-		0,	
								Complete Contract Con	5	
	_				_				<i></i>	
					······					
							<u> </u>			
				FOF	REIGN PAT	TENT DOCUMENTS				
Examiner Initials *				ent Document		Name of Patentee or A		Date of Publication Cited Document	Of Translation? Yes/No	
Initials		Office or Coun	try	Number	Date	of Cited Docume	nt ————————————————————————————————————	MM-DD-YYYY	1 65/140	
	_								-	
			\dashv							
						1				
		-				OCUMENTS				
Examiner Initials *					catalog, etc.	S), title of the article (when), date, page(s), volume-issere published (if known).			Translation? Yes/No	
	,	DEVORE, F	R.A., J	awerth, B., Lucie	r, B.J., "Ima	age compression throug	h wavelet transfo	orm coding,"		
		IEEE Trans.	. Inforn	nation Theory, vo	ol. 38, no. 2	, pp. 719-746, 1992.				
	_	DONOHO, (D.L., J	ohnstone, I.M., "/	Adaption to	unknown smoothness v	via wavelet shrini	kage,"		
		J. America	n Stat	ist. Assoc., pp. 12	200-1224,	1995.				
		<u> </u>								

Examiner Date Signature Considered

									$\boldsymbol{\Box}$
معدما	type	a nlus	sian	(+)	inside	this	hox	•	ı
Please	ypo.	u pius	0.9	(')	1113140		DUA.	─	

PTO/SB/08A (10-96) Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

+

nder the Pa	perwork Reduction	Act of 1995,	, no persons are re	quired to resp	ond to a collection of informa	tion unless it contain	s a valid OMB control			
	te for form 1449		OIP	<u> </u>		nplete if Known		<u> </u>		
,	ed by BSTZ 6/30/9	•	/ · · · <	ν .	cation Number	09/467,544				
11	NFORMATION STATEMENT B	DISCLOS	URE PANTAY 1 4 200		Date	12/10/1999				
		1	استا	First I	Named Inventor	Berkner				
(us	e as many shee	ets as nece	PADEMARY	Grou	p Art Unit	2721				
			ADEMARK	Exan	niner Name	Not yet assign				
Sheet	8	of	9	Attor	ney Docket Number	74451.P103				
		<u> </u>	U.	S. PATEN	DOCUMENTS					
Examiner Initials *	U.S.Patent I		Nam	ne of Patentee of Cited Doo		Date of Publica Cited Docum MM-DD-YY	tion of lent YY	if Astropriate		
							- Charles	7 1		
						<u> </u>	709	8		
					·	<u> </u>		Con Op		
			<u> </u>	·				-3		
-								<u>~</u>		
•	T	weien Detent		EIGN PATI	ENT DOCUMENTS		Data of Dublication o	£1		
Examiner Initials *	Office or Cou	reign Patent untry	Number	Date	Name of Patentee or A of Cited Docume		Date of Publication o Cited Document MM-DD-YYYY	Translation' Yes/No		
								ļ		
						=				
							<u> </u>			
				OTHER DO	DCUMENTS		· · · · · · · · · · · · · · · · · · ·			
Examiner Initials *			al, symposium, c	atalog, etc.),), title of the article (when date, page(s), volume-iss e published (if known).			Translation Yes/No		
	ДОМОНО	, D.L., Vett	terli, M., DeBor	e, R.A., Da	ubechies, I., "Data com	pression and ha	rmonic	<u> </u>		
	analysis,"	IEEE Tran	nsactions on Inf	ormation T	heory, vol. 44, no. 6, pr	o. 2435-2476, 19	98.	<u> </u>		
	LEVY VEH	IEL, J., Gu	iheneuf, B., "2-	microlocal	analysis and applicatio	ns in signal proce	essing" in			
	Proceeding	gs of Interr	national Wavele	et Conferen	ce, Tanger, Morocco,	1998.				
								 		
				<u> </u>				<u></u>		
Examine	r 1				10	ate				

Signature Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if

Please	type a	plus	sign	(+)	inside	this	box.	_	Ц	
		•	_						 	

Substitute	for form 1449A/PTO		Т	Co	mplete if Knowr			
	by BSTZ 6/30/99)	OIPE	Appli	cation Number	09/467,544			_
INF	ORMATION DISC	LØSURE S		Date	12/10/1999		_	
ST	ATEMENT BY AP	o/icant で\		Named Inventor	Berkner			
(use a	as many sheets as	Necessary) 2001	Grou	p Art Unit	2721			
		ENT. MARKO	Exan	niner Name	Not yet assign	ined		
Sheet	9 of	9	Attor	ney Docket Number	74451.P103			<u> </u>
				DOCUMENTS	74401.1100			
Examiner Initials *	U.S.Patent Docume	ent Name o		or Applicant	Date of Public Cited Docu MM-DD-Y	eation of iment YYY	Filing Date i	f Appropriate
	T Foreign F	Patent Document	GN PATI	ENT DOCUMENTS		IDate of P	ublication of	Translation?
Examiner Initials *	Office or Country	Number	Date	Name of Patentee or a of Cited Docum		Cited L	D-YYYY	Yes/No
					<u> </u>	 		
		0	THER DO	DCUMENTS				
Examiner Initials *		the author (in CAPITAL I , serial, symposium, cata	LETTERS alog, etc.),), title of the article (wher date, page(s), volume-is e published (if known).				Translation? Yes/No
	MUNOZ, A., Blu	T., Unser, M., "Non-E	Euclidean	Pyramids," in Procee	dings of SPIE C	onference)	
	San Diego, vol.	4119, pp. 710-720, 20 	00.		-			
Examiner Signature					Date Considered			